Virtual Tour
of
Maine’s Mines and Quarries
Introduction

Mining in Maine has a long history unknown to many citizens. Some of us have seen the granite quarries which remain from an industry established more than 150 years ago. Gravel pits are a common sight today, and many people are familiar with Maine’s limestone, slate, and crushed stone operations. However, the well-known resources of modern times are but a few of the mineral products that have been produced in Maine. Economic conditions, technological developments, and world events have influenced the level of mining activity in our state.

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Most metal mines in Maine are very small and have not been worked for a long time. One of the oldest is the Lubec Lead Mine, which was operated in the 1830's. In 1837 the first State Geologist, Charles T. Jackson, published this view of one of the ore veins and mine adits exposed in a cliff along the ocean shore.
Lubec Lead Mine

The old workings of the Lubec Lead Mine are still visible today and may be visited as a mineral collecting locality. Extreme caution is required to avoid being caught by rising tides in this area.
Katahdin Iron Works

In the mid 1840's, Katahdin Iron Works began operations to smelt bog iron. This view of the brick charcoal kilns was taken from atop the furnace. At the peak of operation, sixteen of these kilns rendered cords of wood down to the charcoal that fueled the furnace. The kiln closest to the camera (center) is the only one that still remains intact.
The remaining brick kiln at Katahdin Iron Works, now a state historic site. The blast furnace is seen at rear left of photo.
Blast Furnace

The remains of the blast furnace at Katahdin Iron Works.
The most notorious development in Maine's mining history was the metal mining boom of 1879 to 1882. The origin of this boom is unclear, though it is said that men returning from the gold rushes in the West found a similarity between the metal-bearing rocks of Maine and ore deposits of the western states. There was great excitement as mining companies were organized, buildings were erected, expensive machinery was installed, and in some cases mills, concentrators, and smelters were constructed. Much of the activity occurred around Blue Hill, Sullivan, Acton, and Lubec. It soon reached such a high level that a weekly industry newspaper, the "Maine Mining Journal," was published in Bangor beginning in 1880.
During the mining boom, a large number of mining companies were formed, each issuing stock to raise capital.
During the mining boom, one of the few mines to actually produce smelted metal was the Douglass Copper Mine, located in Blue Hill. This view (from a postcard) shows the construction of the milling and smelting works of the mine. The mine was operated from 1878 to 1883, and in 1918.
Douglass Mine

Although prospecting continued and several metal mines reopened for a short time, no major mining occurred in Maine during the remainder of the 1800's. There was a brief period of activity in Cherryfield around 1905-07, when the price of silver was favorable. The shipment of copper concentrates from the Douglass Mine in Blue Hill by American Smelting and Refining Co. in 1918 marked the last production of base metals from Maine mines until the late 1960's. The photo above shows the entrance to old underground workings at the Douglass Copper Mine in Blue Hill.
Manganese Ore

During the war years of the 1940's, minerals on the War Department's "strategic list" were of utmost importance. In view of the urgent need for manganese to meet the demands of the steel industry, work began in the summer of 1941 to evaluate manganese deposits in Aroostook County that had been discovered over 100 years before. Altogether, the work during the war years indicated reserves of metallic manganese in Aroostook County of about 2,100,000 tons.

The average manganese content of the ore is about 9 percent. At that time, however, a process by which manganese could be extracted economically from the type of ore found in Aroostook County had not been developed. The sample above is of manganese ore from Hovey Mountain in Aroostook County.
In 1965 Callahan Mining Corporation of New York acquired the old Harborside Copper Mine in Brooksville. Originally opened in the 1880's, the Harborside Mine had been leased by Penobscot Mining Corporation in the mid 1950's. The latter company had staked claims on Goose Falls Pond and delineated a sulfide ore body. Callahan Mining obtained permission from the State to temporarily drain Goose Pond, which was a tidal inlet, in order to develop an open pit copper-zinc mine at the Harborside property. The photo above shows the open pit at the Callahan Mine, Brooksville, ca. 1970, when the mine was active.
Callahan Mining Corporation built a flotation mill to extract copper and zinc concentrates from the ore, and began mining in 1968. The copper concentrates were shipped to the Noranda smelter in Gaspe, while the zinc concentrates went to a smelter in Pennsylvania. The photo above shows the Callahan Mine mill complex.
In 1972, after 5 years of production, Callahan Mining closed its copper-zinc mining and milling operation at Harborside in Brooksville due to depletion of reserves. During this time the Callahan Mine had yielded 800,000 tons of ore grading 5.5% zinc, 1.25% copper, 0.5% lead, and 0.5 oz/ton silver. The photo shows a giant rock core at the site of the Callahan Mine in Brooksville.
Late in 1972, Kerramerican, a subsidiary of Kerr Addison of Toronto, commenced production at the Black Hawk Mine in Blue Hill. The photo above shows miners sinking a shaft at the Black Hawk Mine during the mid 1960's.
Black Hawk (Kerr American) mill construction, next to Second Pond, Blue Hill. The ore was processed on site for zinc and copper concentrates, which were shipped out of state for smelting. Mining continued until the fall of 1977. Based on extrapolation of 1976 statistics, it is estimated that the total output of the Black Hawk Mine during this period was approximately 1,000,000 tons containing 7.35% zinc, 0.89% copper, and 0.35% lead.
Headframe of the Black Hawk Mine. After operations ceased, equipment was removed from the mine and the mine openings were sealed with concrete bulkheads. To reclaim the sulfide tailings, glacial till and topsoil were graded over the tailings and reseeded.
In September, 1977, a 36 million-ton massive copper-zinc sulfide deposit was discovered at Bald Mountain in T12 R8, Aroostook County, Maine. It was estimated by some to be the third most significant copper discovery on the North American continent since the 1950's. The discovery of the Bald Mountain deposit was the culmination of years of exploration by Maine geologist John S. Cummings. Utilizing innovative geochemical techniques coupled with persistence, patience, and trial and error, Cummings pinpointed the deposit in an assemblage of volcanic rocks which extend for approximately 130 miles in a belt 50-60 miles wide across north-central Maine. As of this date, the deposit has not been developed.
Stinchfield Quarry

During the 1800's, granite was a commodity of great importance. Maine had several advantages that made it the principal supplier of granite to the rest of the Atlantic states and the West Indies. The greatest advantage was that most of the important quarries were readily accessible by navigable rivers, bays, or inlets. Thus the shipping costs for Maine granite were considerably less than for other types of building stone.

Quarrying was concentrated around Penobscot Bay, eastern Washington County, Hallowell, Biddeford, and the Blue Hill area. The granite industry reached its high point in 1901, with 152 quarries employing at least 3,500 men. Maine ranked first in the country in terms of value of granite produced. The photo above shows the Stinchfield Quarry near Hallowell, circa 1900.
Granite Columns

Monolithic columns of coarse-textured biotite granite quarried at Palmer Quarry, Vinalhaven, for the Cathedral of St. John the Divine, at New York - circa early 1900's (photo from Dale, USGS B-313). Maine granite was used for everything from bridge supports and piers to tombstones. Many public buildings, churches, and monuments, particularly in New York City, are constructed of Maine granite. Examples include the State House in Augusta, Maine; post offices in Philadelphia, Buffalo, Hartford, and Albany; custom houses in St. Louis, Boston, and Brooklyn; Grant's Tomb in New York; paving stones in New York and Philadelphia; and the gatehouse in Central Park.
The development of Portland cement as a building material in the early 1900's, and the depression of the 1930's, dealt Maine's granite industry a blow from which it would never recover. Most quarries in the state ceased production, leaving inactive quarry pits and bits of rusting machinery. The photo above shows the remains of a quarry hoist engine at the New England Stone quarry on Crotch Island in Stonington. Occasionally, old quarries may be reactivated for special projects.
New England Stone Quarry

New England Stone quarry, Crotch Island, Stonington. One of the few remaining active quarries in Maine.
Deer Isle Granite

Large block of Deer Isle granite at the New England Stone quarry, Crotch Island, Stonington.
The Maine slate industry was also big in its day. From 1880 to 1904 Maine was among the top five slate-producing states in the country, providing slate of excellent quality for roofing tiles and other purposes. Many Maine homes and public buildings dating to that time are still protected by their original slate roofs. The "Central Maine Slate Belt" extends approximately from Waterville to Brownville Junction, with most activity having been in southern Piscataquis County. The photo above shows the Merrill Slate Quarry at Brownville.
Although most slate quarries in Maine have closed, there is still an active operation in Monson. The photo above shows slate slabs stockpiled at the Sheldon Slate Company.
Cutting slate at the Sheldon Slate Company, Monson.
Maine was also well known for its limestone quarrying in the early 1800's. Activity was concentrated then, as it is now, in the Thomaston area. C. T. Jackson estimated that at least $14 million worth of limestone lay within 20 feet of the surface in Thomaston. The annual lime production was valued at about one-half million dollars. It was used for agriculture and the manufacture of wall plaster. The diagram above shows the structure of a "perpetual lime kiln" at the State prison in 1838.
During the 1800's, Rockport was a major supplier of lime to markets on the East Coast. Lime kilns converted limestone from local quarries into lime used to produce mortar and plaster. The image above is a photo of an interpretive sign located at Rockport Marine Park. The drawing shows limestone being unloaded from rail cars into the kilns. The limestone was burned in the kilns to produce lime, which was then packed in casks and shipped to waiting markets.
A devastating fire in 1907 destroyed most of the wooden buildings surrounding the kilns. The local lime industry never recovered. The photo above shows some of the remaining kilns as they appear today in Rockport Marine Park.
Dragon Cement

The Dragon Cement plant in Thomaston is the only cement manufacturing plant in New England and has been in continuous operation since 1928. The adjacent limestone quarry provides rock of the necessary chemistry for cement manufacturing. This photo shows the marble (limestone) quarry, north of Route 1 in Thomaston, Me. The crushing mill and kiln can be seen in the background.
The resource of greatest economic value in recent years is "aggregate," which is unconsolidated material such as sand, gravel, or crushed stone used for paving and construction. This photo shows the Blue Rock quarry between Westbrook and Portland. Biotite granofels of the Berwick Formation is quarried here for crushed rock aggregate. The Maine Turnpike is seen in the center of the photo.
Blue Rock Crushed Stone

Crushing and sorting equipment at the Blue Rock quarry in Westbrook.
Mount Mica, near the village of Paris Hill, is home to one of the oldest gem tourmaline localities in the country, having been discovered in 1820. The quarry on Mount Mica has been worked intermittently for over 180 years. (*postcard from early 1900’s*)
Mount Mica Pockets

In the early days at Mount Mica, many tourmaline pockets were found near the surface of the ground. Sticks mark locations of gem pockets.
Mount Mica 2004

The western part of Mount Mica in 2004. Gary Freeman continues to operate this historic mine. It is yielding fine tourmaline crystals that rival the best ever found in the past, along with unusual blue apatites, giant smoky quartz crystals, and other rarities.
Giant Tourmaline

Mary Freeman holding a giant tourmaline specimen just after its discovery at Mount Mica. Specimens from the tourmaline pockets usually are not colorful and sparkly when they are fresh out of the ground. Cleaning is required at the end of the day to remove coatings of rust and mud from both minerals and miners!
Cleaned Giant Tourmaline

The same specimen seen in previous photo, after cleaning. It shows a columnar pink and green tourmaline crystal with a matrix of quartz crystals. The shape and color scheme of this crystal resemble a large tourmaline found at Mount Mica by Loren Merrill in 1904 and now in the collection of Harvard University.
The feldspar mill in West Paris, constructed in 1925 for the Oxford Mining and Milling Company, was important in the development of the feldspar industry in Oxford County. In the 1980's, Industrial Garnet Extractives developed the Wing Hill Mine in Rangeley for garnet-bearing diorite. The garnet was separated at the Bell Minerals Company feldspar mill in West Paris, and was used for a variety of industrial products including water filters, abrasives, and packing media. This operation was one of four garnet producers in the United States. It closed in May, 1988 due to supply and milling problems. The mill was inactive when this photo was taken (1990).
Feldspar mining operation at the Tamminen Quarry, Greenwood, 1952. Note trays loaded with feldspar, next to derrick.
Sand and gravel is a basic component of concrete used in commercial and industrial buildings and public works projects. It also receives wide use as a base material in the construction and repair of highways, railways and airport runways. In Maine, this has been the resource with the greatest economic value in recent years. Glacial sand and gravel deposits across the state have been mined for this purpose. This photo shows a very large gravel pit near the Androscoggin River in Topsham.
Whitefield Gravel Pit

Gravel size sorting operation in a pit in the Palmer Hill delta in Whitefield.
Clay has been mined in Maine for well over a century. Clay deposits are widespread in Maine's coastal counties, particularly in the Presumpscot Formation of Pleistocene age. This formation originated as finely ground "rock flour" produced by glacial abrasion, and has a complex mineral makeup. This clay is quite suitable for common brick made in local brickyards. The photo shows an exposure of Presumpscot Formation clay in Gardiner.
The Morin Brick Company in Auburn makes brick from clay mined at a nearby pit. Clay from the pit is trucked to the manufacturing plant where it is sized, mixed with additives, formed into bricks, and fired in a kiln.
The buildings of Colby College in Waterville are constructed of brick produced by the Morin Brick Company. It is estimated that the campus is built of some 50 million Maine-made "Colby" bricks.
Peat was harvested in a number of Maine towns during the early 1940's, including Centerville, Deblois, Franklin, Friendship, Jonesport, Penobscot, and Sullivan. Harvesting of peat for agricultural uses has continued on a limited basis until the present day. The photo above shows a peat harvester on the Denbo Heath in 1980.
A variety of equipment has been used to harvest peat in Maine. One of the most interesting was the "Martian Bigfoot," shown here on Denbo Heath in 1980.
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